

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

KIM, Sung-Gyu

4th FL. Jangam Bldg., 827-3 Yoksam-dong, Kangnam-gu,
Seoul 135-080 Republic of Korea

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year) **18 NOVEMBER 2005 (18.11.2005)**

Applicant's or agent's file reference

PSBK1086PCT

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/KR2005/001037

International filing date (day/month/year)

11 APRIL 2005 (11.04.2005)

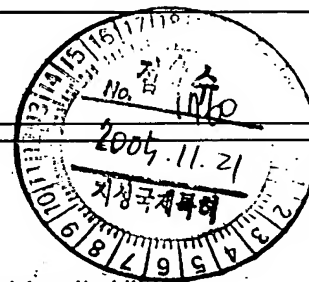
Priority date(day/month/year)

21 MARCH 2005 (21.03.2005)

International Patent Classification (IPC) or both national classification and IPC

IPC7 H02J 7/00

Applicant

HANRIM POSTECH CO., LTD. et al

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION


If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/KR

 Korean Intellectual Property Office
920 Dunsan-dong, Seo-gu, Daejeon
302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Date of completion of this opinion

18 NOVEMBER 2005 (18.11.2005)

Authorized officer

LEE, Chang Yong

Telephone No. 82-42-481-5640



WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/KR2005/001037

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ on paper
☐ in electronic form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in electronic form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

Best Available Copy

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2005/001037

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-11	YES
	Claims	None	NO
Inventive step (IS)	Claims	1-11	YES
	Claims	None	NO
Industrial applicability (IA)	Claims	1-11	YES
	Claims	None	NO

2. Citations and explanations :

Reference is made to the following documents:

D1 = US 6,683,438 B2 (Samsung Electronics Co., Ltd.(KR)) 27 Jan. 2004
D2 = US 6,118,249 A (Perdix Oy, Helsinki, Finland) 12 Sep. 2000

The subject-matter of claims 1-11 is a non-contact charging system which detects a portable terminal, a battery pack or a foreign object that is placed on the pad of a non-contact charger, and effectively monitors and controls its charging state through the detection, thus preventing such a foreign object placed on the pad from being heated by induction heating, and further causes anions to be generated during the charging of the portable terminal or the battery pack, thus sterilizing bacteria on a terminal and keeping ambient air thereof fresh.

On the other hand, D1 discloses a contactless battery charger which includes a converter and a charging unit. A converter, which includes a primary side of the PCB transformer, converts a commercial electric power to a high-frequency square wave and applies the converted high-frequency square wave to the primary side of the PCB transformer. A charging unit, which comprises a secondary side of the PCB transformer, converts to a DC voltage an electromotive force induced at the secondary side of the PCB transformer by a magnetic field generated by the square wave applied to the primary side of the PCB transformer.

D2 discloses a charger for batteries, wherein a power oscillator produces an alternating magnetic field with the primary part of an inductive coupler. Especially the charger contains a detection means which generates at least one control signal when the inductive load of the coupler is periodically changed in order to switch the power level from a low average value in the stand-by mode to a higher average value for charging operation.

But neither D1 nor D2 teaches or fairly suggests the detection means which detects a portable terminal, a battery pack or a foreign object that is placed on the pad of a non-contact charger.

Therefore, the subject matter of claim 1-11 is considered to be novel and involve an inventive step.